

ANT 34 AMENDT

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CLAIMS:

1. Use of a bimodal polypropylene blend in melt processing wherein for enhancing a compromise between melt strength and drawability the blend has a dispersion index  $M_w/M_n$  of at least 8, a ratio  $M_z/M_n$  of from 50 to 150 and comprises from 50 to 70 wt% of a first high molecular weight fraction and from 50 to 30 wt% of a second low molecular weight fraction.

2. Use according to claim 1 wherein the dispersion index  $M_w/M_n$  is greater than 15.

3. Use according to claim 1 or claim 2 wherein the blend comprises from 55 to 65 wt% of the first fraction and from 45 to 35 wt% of the second fraction.

4. Use according to any one of claims 1 to 3 wherein the ratio of the melt flow indexes of the first and second fractions is at least 5, each melt flow index being determined using the procedures of ASTM D1238 using a load of 2.16 kg at a temperature of 230°C.

5. Use according to any foregoing claim wherein the blend has been formed by reactive extrusion of a mixture of at least two fractions together with a mixture of a chain scission agent and a chain grafting agent.

6. Use according to claim 5 wherein the chain scission agent comprises 2,5-dimethyl-2,5-di(tert-butylperoxy) hexane.

7. Use according to claim 5 or claim 6 wherein the chain grafting agent is selected from allyl methacrylate and divinyl benzene.

8. Use according to any foregoing claim for forming spun

fibres, blown films, foams, thermoformed articles and extrusions.

9. A bimodal polypropylene blend having a dispersion index  $M_w/M_n$  of at least 8, a ratio  $M_z/M_n$  of from 50 to 150 and comprising from 50 to 70 wt% of a first high molecular weight fraction and from 50 to 30 wt% of a second low molecular weight fraction.

10. A blend according to claim 9 wherein the dispersion index  $M_w/M_n$  is greater than 15.

11. A blend according to claim 9 or claim 10 wherein the blend comprises from 55 to 65 wt% of the first fraction and from 45 to 35 wt% of the second fraction.

12. A blend according to any one of claims 9 to 11 wherein the ratio of the melt flow indexes of the first and second fractions is at least 5, each melt flow index being determined using the procedures of ASTM D1238 using a load of 2.16 kg at a temperature of 230°C.

13. A method of melt processing a polypropylene blend, the method comprising providing a bimodal polypropylene blend, selecting the blend to have a dispersion index  $M_w/M_n$  of from 8 to 70, a ratio  $M_z/M_n$  of from 50 to 150 and from 50 to 70 wt% of a first high molecular weight fraction and from 50 to 30 wt% of a second low molecular weight fraction, and processing the blend in the melt by drawing the blend to form a solid product.

14. A method according to claim 13 wherein the dispersion index  $M_w/M_n$  is greater than 15.

15. A method according to claim 13 or claim 14 wherein the blend comprises from 55 to 65 wt% of the first fraction and from 45 to 35 wt% of the second fraction.

16. A method according to any one of claims 13 to 15 wherein the ratio of the melt flow indexes of the first and second fractions is at least 5, each melt flow index being determined using the procedures of ASTM D1238 using a load of 2.16 kg at a temperature of 230°C.

17. A method according to any one of claims 13 to 16 wherein the blend has been formed by reactive extrusion of a mixture of at least two fractions together with a mixture of a chain scission agent and a chain grafting agent.

18. A method according to claim 17 wherein the chain scission agent comprises 2,5-dimethyl-2,5-di(*tert*-butylperoxy) hexane.

19. A method according to claim 17 or claim 18 wherein the chain grafting agent is selected from allyl methacrylate and divinyl benzene.

20. A method according to any one of claims 13 to 19 for forming an article selected from spun fibres, blown films, foams, thermoformed articles and extrusions.

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